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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

PARKER, FREDERICK JOHN

ART UNIT	PAPER NUMBER
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1792

NOTIFICATION DATE	DELIVERY MODE
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08/08/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ADIPFDD@bipc.com

Office Action Summary	Application No. 10/583,960	Applicant(s) POSTOACA, ION	
	Examiner Frederick J. Parker	Art Unit 1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6-21-06</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Objections

2. Claim 1 is objected to because of the following informalities: last line “its” should be replaced by intended meaning for clarity. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- Claim 6 is vague and indefinite because it requires heating before step (d) of claim 1, but step d itself requires the same thing, so its unclear where the heating is meant to occur. Further, claim 6 could be construed as not further limiting claim 1.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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6. Claims 1-4, 6,14-16,18 rejected under 35 U.S.C. 102(b) as being anticipated by Coats US 5233153.

Coats teaches a method of applying a polymer coating to a substrate comprising;

Delivering a polymer powder (“pulverulent”) to a gas stream to be entrained (suspended) therein (col. 6, 31-43;

The carrier gas being pressurized (col. 6, 43-45) to eject the powder entrained in the gas from exit nozzle 96 onto a substrate (col. 8, 22-23 and elsewhere);

Heating the polymer during the exiting from nozzle 96 (= “ejecting” of step 1c, per claims 2 and 6) through hot plasma jet 92 to allow a controlled melting of the polymer coating material (col. 14-26 and throughout). Melting inherently occurs above the softening temperature of a polymer. The result is formation of a suitably dense, compact and void-free coating (col. 9, 6-7 , etc).

Per claims 3 & 18, the gas may be an inert (col. 6, 44-45).

Per claim 4, the powder fed to the claim would inherently evaporate any volatiles/ moisture during heating.

Per claim 14, the apparatus necessarily comprises means for mixing the compressed gas and particles to form a particle-entrained gas (fluid) stream; pressurized gas source; nozzle 96; and heating equipment 92 suitable for heating the polymer above its melting point. Flow control means include unit 84 per claim 16.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 8,9,12,13,19,22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Coats, which is cited for the same reasons previously discussed, which are incorporated herein. Substrate targets are not limited and are exemplified to include metals (steel, Al, etc) and composites to be polymer coated, such that the limitations of claim 9 are merely intended end-use and would not patentably distinguish over the prior art. Coating design is not limited, and hence the application of continuous or selective coatings of claims 12-13 would have been the only choices available and hence obvious choices within the purview of one skilled in the art. It

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is well-established that the artisan is presumed to know something about the art apart from what the references disclose, In re Jacoby 135 USPQ 317; the conclusion of obviousness maybe made from “common sense” and “common knowledge” of the person of ordinary skill, In re Bozek 163 USPQ 545. Adjustment of carrier gas pressure (col. 3, 56-60;etc) would have influenced gas flow against particle surfaces and thereby prevent agglomeration, which is all that is required of claims 8,22. Modification of the apparatus to provide heating closer to the location where powder is entrained in the pressurized gas stream per claim 19 would have been an obvious design choice to provide an equivalent particle heating means to cause the same melting effect. It would have been obvious to one of ordinary skill in the art at the time the invention was made to carry out the method of Coats and using any substrate or coating pattern because neither are limited by the process of the reference.

11. Claims 5,7,10,11,17,21-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Coats in view of Singelyn US 5021259. Coats is cited for the same reasons previously discussed, which are incorporated herein. Heating the polymer below the melting point is not cited. However, Singelyn teaches a similar thermal spray method of applying thermoplastic polymers entrained in an inert gas stream, in which guidance is provided (col. 3, 18-55) for applying the particles such that particle soften without melting or decomposition but so they adhere to the substrate per claim 5. The applied porous coating is then heated in an oven below the polymer decomposition temperature until a dense impermeable film is formed (col. 4, 22-42). Singelyn also teaches to pretreat the substrate per claim 10 by applying a tie coat (primer) to the substrate to improve adhesion of the subsequently applied polymer coating, necessarily

activating the substrate using suitable means to prevent the coating from sloughing off at elevated temperatures per claims 17,25.

Coats is also not limited to particle size, and Singelyn exemplifies polymer particle size in their similar method between about 1-20 microns, which overlaps the ranges of Applicants claims 7, 20, and 21. The subject matter as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made if the overlapping portion of the particle sizes disclosed by the reference were selected because overlapping ranges have been held to be a prima facie case of obviousness, see *In re Wortheim* 191 USPQ 90. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Coats by incorporating the teachings of Singelyn regarding utilizing softening followed by thermal treatment of the coated substrate, use of a primer pre-coat, and particle sizes to provide dense impermeable polymeric coatings with improved adhesion to a substrate and without polymer decomposition.

Applied coating thicknesses are approximately 1-25 mils (= 25-630 microns) which is larger than that of Applicants but given the overlap of particle sizes, it would have been apparent that the formation of thinner coatings for a specific end-use applications would have been feasible, and a matter of choice by the skilled artisan; thus the thicknesses of claims 11,23,24 would not patentably distinguish over the prior art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frederick J. Parker whose telephone number is 571/ 272-1426. The examiner can normally be reached on Mon-Thur. 6:15am -3:45pm, and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on 571/272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Frederick J. Parker
Primary Examiner
Art Unit 1792

/Frederick J. Parker/
Primary Examiner, Art Unit 1792